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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/804,494	03/18/2004	Gary Flohr	81095342 (FGT 3E9)	7706
36865	7590	12/02/2004		
KOLISCH HARTWELL, PC 200 PACIFIC BUILDING 520 SW YAMHILL STREET PORTLAND, OR 97204				
EXAMINER RIDDLE, KYLE M				
ART UNIT		PAPER NUMBER		
3748				

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/804,494

Applicant(s)

FLOHR, GARY

Examiner

Kyle M. Riddle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-14 and 17-26 is/are rejected.
- 7) ☒ Claim(s) 7, 8, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03182004, 04192004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Page 5, line 27, "62" should read --66--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-6, 9-14, 17-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Ricco et al. (U.S. Patent 5,532,526).

Ricco et al. disclose a control circuit for controlling actuators comprising:

- a first voltage source consisting of a low-voltage battery B (column 3, lines 21-22);
- a second energy source as a capacitor Ci with a higher voltage than battery B (column 3, lines 39-41);
- the circuit comprising actuator Li, storage capacitor Ci, coupling diode Di, a controlled electronic switch SWi, and main switch SWR (column 3, lines 27-30);
- the current flowing in series in boost configuration from the battery B to the actuator Li when the switch SWR and SWi are in a first position (column 4, lines 23-25), and the current

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flows in series through the valve actuator Li to the capacitor Ci when the switch SWR and SWi are in a second position (column 4, lines 1-7);

- the current of another actuator Li is allowed to flow in series in buck configuration from the capacitor Ci to the valve actuator Li and toward the first voltage source when the switches SWR and SWi are in different positions (column 5, lines 16-29);

- the selected actuator diode Di operates as a free-wheeling diode (column 4, lines 32-35).

4. Claims 1, 4, 5, 9, 12, 13, 17, 23-26 are further rejected under 35 U.S.C. 102(e) as being anticipated by Gaessler et al. (U.S. Patent 6,772,737).

Gaessler et al. disclose a circuit system for solenoid valves comprising:

- operating intake or exhaust valves of an internal combustion engine (column 6, lines 64-67);

- a first voltage source U₁ as a voltage boost chopper and a second voltage source U₂ as a buck chopper (column 7, lines 16-22);

- the voltage source for the solenoid valve MV including a capacitor (column 8, lines 54-60);

- switching elements S₁ and S₂ and diodes D₁ and D₂, diode D₂ being a free-wheeling diode (column 7, lines 33-43);

- the current flowing in series in boost configuration from the first voltage source U₁ to the solenoid valve MV when the switch S₁ is in a first position (column 7, lines 1-4), and the current flows in series through the solenoid valve MV to the second voltage source U₂ when the switch S₂ is in a second position (column 7, lines 7-11);

- the current of another solenoid valve MV is allowed to flow in series in buck configuration from the capacitor to the solenoid valve actuator and toward the first voltage source or U_{batt}, 26, 27 when the switches are in different positions (column 8, lines 54-64).

Allowable Subject Matter

5. Claims 7, 8, 15, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The IDS (PTO-1449) filed on 18 March 2004 and 19 April 2004 has been considered. An initialized copy is attached hereto.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of 3 patents.

- Yanai et al. (U.S. Patent 5,775,276) disclose a valve driving apparatus with voltage sources, capacitors, pulse-width modulation, and diodes.

- Yanai et al. (U.S. Patent 5,915,347) disclose a valve driving apparatus with voltage sources, capacitors, pulse-width modulation, and diodes.

- Yanai et al. (U.S. Patent 6,276,318) disclose a valve driving apparatus with voltage sources, capacitors, pulse-width modulation, and diodes.

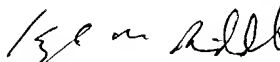
Communication

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle M. Riddle whose telephone number is (571) 272-4864. The examiner can normally be reached on M-F (07:30-5:00) Second Friday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

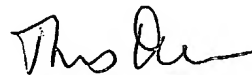


Kyle M. Riddle

Examiner

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kmr



THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700